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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,019	07/17/2003	Michael Ansorge	01GV33454477	1689

27975 7590 02/27/2007

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EXAMINER
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HAN, QI

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/622,019	ANSORGE ET AL.	
	Examiner	Art Unit	
	Qi Han	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/25/2003</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This communication is responsive to the applicant's preliminary amendment filed on 07/17/2003. The applicant(s) cancelled claims 1-4, and added new claims 5-22 (see the amendment: pages 2-6).

### ***Information Disclosure Statement***

2. The references listed in the Information Disclosure Statement submitted on 08/25/2003 have been considered by the examiner (see attached PTO-1449).

### ***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in EPO on 07/17/2002. It is noted, however, that applicant has not filed a certified copy of the 02015919.0 application as required by 35 U.S.C. 119(b).

### ***Response to Amendment***

4. This communication is responsive to the applicant's preliminary amendment filed on 07/17/2003. The applicant(s) cancelled claims 1-4 and new claims 5-22 (see the amendment: pages 2-6).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 5, 13-14 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by SU et al. (US 2001/0023395 A1) hereinafter referenced as SU.

As per **claim 7**, SU discloses ‘speech encoder adaptively applying pitch preprocessing with warping of target signal’ (title) applying ‘code-excited linear prediction’ (abstract), comprising:

“sampling speech to obtain successive voice frames each comprising a predetermined number of samples”, (Figs. 1a-1b and paragraph (hereinafter referenced as p)55 and p81);

“determining for each voice frame parameters of a linear prediction model, (Fig. 2, p60-67) the determining comprising

extracting a long-term excitation word from an adaptive coded directory using a first weighting filter”, (Fig. 2, blocks 257 and 251, wherein codbook is read on coded dictionary), and

“extracting a short-term excitation word from a fixed coded directory using a second weighting filter cascaded with a third weighting filter” (Fig. 2, blocks 261 and 258’; p65 and equation 3, ‘percept weighting filter’, p220, ‘the impulse response...of the weighted synthesis filter ... $A(z/\gamma_1)/[\bar{A}(z)A(\gamma_2)]$  ... by filtering the vector of coefficients

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of the filter  $A(z/\gamma_1)$  extended by zeros through the two filters  $1/\bar{A}(z)$  and  $1/A(\gamma_2)$

(implying cascaded), p536, 'the adaptive postfilter is the cascade of three filters'.

As per **claim 13**, it recites a speech encoding device. The rejection is based on the same reason described for claim 7, because the claim recites the same or similar limitation(s) as claim 7.

As per **claim 14** (depending on claim 13) the rejection is based on the same reason described for claim 13, because the rejection for claim 13 covers the same or similar limitation(s) as claim 14.

As per **claim 18**, it recites a mobile cell phone. The rejection is based on the same reason described for claim 13, because the claim recites the same or similar limitation(s) as claim 7, except the limitations "an antenna" and 'transmission circuitry connected to said antenna'. However, the features are further disclosed by SU (p25, 'speech telecommunication system 100' and 'cellular telephony embodiments'; p34, 'a cellular telephone'; which necessarily and inherently includes the components/features of the limitations recited above).

As per **claim 19** (depending on claim 18) the rejection is based on the same reason described for claim 14, because the claim recites the same or similar limitation(s) as claim 14.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-12, 15-17 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU.

As per **claim 8** (depending on claim 7), SU does not expressly disclose “the first and second weighting filters having respective transfer functions, and a denominator of the transfer function of the first weighting filter is equal to a numerator of the transfer function of the second weighting filter”. However, as stated above, SU discloses ‘percept weighting filter’ (p65 and equation 3), wherein denominator and numerator is in combined form (in one filter); and ‘weighted synthesis filter  $A(z/\gamma_1)/[\bar{A}(z)A(\gamma_2)]$  ... filter  $A(z/\gamma_1)$  extended by zeros through the two filters  $1/\bar{A}(z)$  and  $1/A(\gamma_2)$ ’ (p220), suggesting a separate form (implying cascaded filters); ‘the adaptive postfilter is the cascade of three filters’ (p536). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that two cascaded filters having denominators and numerators with a form  $(A/x)(x/C)$ , where x is arbitrary, would have equivalent functionality to two cascaded filters with a form  $(A/1)(1/C)$  or one filter with a form  $(A/C)$ , and to use one of the alternative filter forms (such as a cascaded form  $(A/1)(1/C)$ ) for the encoder system based on user’s preference and/or design choices, because they have equivalent functionality.

As per **claim 9** (depending on claim 8), SU further discloses “a first formantic weighting filter” and “a second formantic weighting filter”, (SU: p66).

As per **claim 10** (depending on claim 7), SU does not expressly disclose “the first and third weighting filters are equal”. However, SU discloses ‘the weighting filters 219 and 251’ being ‘equivalent in functionality’ (p45), ‘the optimum excitation sequence in a codebook using an analysis-by-synthesis search procedure’ (p65 and p600), ‘percept weighting filter’ (p65 and

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equation 3), 'weighted synthesis filter  $A(z/\gamma_1)/[\bar{A}(z)A(\gamma_2)]$  ... filter  $A(z/\gamma_1)$  extended by zeros through the two filters  $1/\bar{A}(z)$  and  $1/A(\gamma_2)$ ' (p220) in separate (implying cascaded) form; 'the adaptive postfilter is the cascade of three filters' (p536). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made: (i) to recognize that a filter with a form  $A/C$  is equivalent to two cascaded filters with a form  $(A/1)(1/C)$ , so that using the later form for both SU's weighting filters 251 and 268 (Fig. 2) can be read on the claim in a broad sense; or, (ii) to combine SU's teachings by providing the equivalent (equal) formant postfilters within blocks 251 and 268 (Fig.2) and further providing at least one tilt compensation filter (p45, p537), for the propose (motivation) of compensating for the tilt in the formant posfilter (p537).

As per **claim 11**, it recites a speech encoding device. The rejection is based on the same reason described for claims 7-9, because the claim recites the same or similar limitation(s) as claims 7-9.

As per **claim 12** (depending on claim 11) the rejection is based on the same reason described for claim 10, because the claim recites the same or similar limitation(s) as claim 10.

As per **claim 15-17** (depending on claim 13) the rejection is based on the same reason described for claims 8, 10 and 9 respectively, because the claim recites the same or similar limitation(s) as claims 8, 10 and 9 respectively.

As per **claim 20-22** (depending on claim 18) the rejection is based on the same reason described for claims 15-17 respectively, because the claim recites the same or similar limitation(s) as claims 15-17 respectively.

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7. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU in view of KIRCHERR et al. (US 2003/0009325 A1) hereinafter referenced as KIRCHERR.

As per **claim 5**, the rejection is based on the same reason described for claims 7-9, because the claim recites the same or similar limitation(s) as claims 7-9, except the limitation “**wideband** speech” in the preamble. However, this feature is well known in the art as evidenced by KIRCHERR who discloses that ‘the audio input...may be bandwidth limited to 7kHz, i.e., to a wide speech range’ (p44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify SU by providing processing input with a wideband speech range, as taught by KIRCHERR, for the propose (obviousness or motivation) of providing a wideband source coding scheme, such as subband-CELP (SB-CELP), for bit rates of 16 kbit/s and 24kbit/s (KIRCHERR: p62).

As per **claim 6** (depending on claim 5) the rejection is based on the same reason described for claim 10, because the claim recites the same or similar limitation(s) as claim 10.

### ***Conclusion***

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and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

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February 21, 2007



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